

REMARKS

In the Office Action mailed May 5, 2005, Claim 60 was objected to for containing certain informalities. In response, applicants have corrected all of the informalities pointed out by the Examiner.

In the Office Action, Claims 60-61 and 63-66 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Humpleman (U.S. Patent No. 5,940,387), in view of Ito et al. (U.S. Patent No. 6,014,693), in further view of Gerszberg et al. (U.S. Patent No. 6,307,839), in further view of Barton et al. (U.S. Patent No. 6,233,389). Claims 67-68 were rejected also under 35 U.S.C. § 103(a) as being unpatentable over the same references as recited above and further in view of Budow et al. (U.S. Patent No. 5,625,864), in further view of Blahut et al. (U.S. Patent No. 5,442,389).

Applicants respectfully traverse the rejection of these claims and submit the following. In this regard, prior to discussing why the claims of the present application, as amended, are allowable, a brief description of an embodiment of the present invention is set forth below. It should be understood that the following is provided merely to assist the Examiner's understanding of the present invention, and is not intended to limit the scope of the claims.

According to one embodiment of the present invention, distribution in a local area network of the streamed data received from an external network is adjusted according to the bandwidth of the local area network, which is narrower than that of the external network. Specifically, the stream data received in a broad band (with a large amount of data being transmitted per time, e.g., broadcast) is controllably changed to stream data corresponding to a narrow band (with a smaller amount of data being transmitted per time) based on the distribution condition of the local area network. A stream distribution system, according to one embodiment of the present invention, comprises a filter for adjusting a transmission band of the information to

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be sent to each of a plurality of terminal devices connected to the local area network so as to selectively transmit the information from the streamed data to each of the terminal devices according to data transmission band availability within the local area network.

The filter comprises a priority table which correlates each of packet identifiers with a packet priority. The filter refers to the priority table to determine the packet priority for each of the packets received, and performs packet filtering based on the packet priority of each packet, so as to limit the transmission band of the information to be sent to each of the terminal devices *or to delete the information*. In other words, if the packet priority ascertained from the priority table is sufficiently low, the information is simply deleted (as opposed to being transmitted on a limited band).

In another aspect of the present invention, when a transmission band allocated to one of the terminal devices is limited, then the same information is output to both a transmitter and a file I/O controller, wherein the information received by the transmitter is either: (1) band-limited to correspond to the limited transmission band so that the band-limited information is transmitted to the terminal device, or (2) deleted by the filter according to the priority table. In the meantime, the same information received by the file I/O controller is non band-limited and stored in a file device. For example, when traffic in the local area network is large, band-limited information is transmitted to the terminal device (or the information is deleted), while at the same time non band-limited information is transmitted to the file device and stored there for later use. One example of an application of an embodiment of the present invention is described in the specification as follows:

The stream distribution server 2 converts the stream data into the image at the SD level by the filtering processing of the stream filter 26 and distributes to the terminal device 3 when judging that the transmission of the image at HD level is difficult. At this time, the stream distribution server 2 temporarily stores the image at the HD level in the file device 4,

and notifies the terminal device 3 of a predetermined message. The message includes, for example, "the quality of the program under the distribution is adjusted because of the band limitation of the local area network", and "an original program at the HD level is being recorded simultaneously" etc.

(Page 28, lines 2-14 of the specification.)

Some of the features discussed above are explicitly recited in Claim 60, which recites

"a selector ... for branching the information to a transmitter and a file I/O controller;"

"the transmitter comprising a filter for adjusting a transmission band of the information to be sent to each of the terminal devices so as to selectively transmit the information received from the selector to each of the terminal devices according to data transmission band availability within the local area network;"

"the filter comprises a priority table correlating each of the packet identifiers with a packet priority; and

"the filter refers to the priority table to determine the packet priority of each of the packets, and limits a transmission band of the information to be sent to each of the terminal devices or deletes the information to be sent according to the distribution request, by performing packet filtering based on the packet priority."

Further, Claim 60 recites that:

when a transmission band allocated to one of the terminal devices requesting the information is limited, the selector outputs the same information to both the transmitter and the file I/O controller, wherein the information received from the selector by the transmitter is band-limited to correspond to the limited transmission band and the band-limited information is transmitted to the terminal device, or, the information received from the selector by the transmitter is deleted by the filter according to the priority table, while at the same time the information received from the selector by the file I/O controller is non band-limited and stored in the file device.

On the other hand, the cited and applied references, either alone or in any combination, do not describe each and every feature now recited in Claim 60.

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For example, Humpleman does not teach or suggest a selector which branches the information to a transmitter and a file I/O controller. In this regard, the Office Action cited Col. 2, lines 10-16 and Col. 3, lines 18-40 of Humpleman as teaching this subject matter, but these sections merely discuss how a single network interface unit distributes incoming data to multiple terminals in a home network (e.g., multiple TV set-top boxes) and do not at all teach or suggest branching the information "to a transmitter and a file I/O controller" as recited in Claim 60. The Office Action further cited Col. 4, lines 14-29 as suggesting connecting the file I/O device to a high-speed line in order to ensure continuous data transfer "where it is implicit that this is done in order to ensure that the stored information can be reproduced at the highest possible quality." The cited section, however, merely describes a "local peripheral network" that provides local connection for high bit rate peripheral devices. This section does not at all teach or suggest that the high bit rate information that may be received by peripheral devices is branched out by the selector while at the same time the *same* high bit rate information is output to the transmitter to be band-limited for transmission, or, deleted. In other words, this section of Humpleman merely describes that its "local peripheral network" may be designated to receive high bit rate information when it arrives, and is completely silent as to having the same high bit rate information branched out to a transmitter for band-limited transmission or deletion. Specifically, Humpleman is silent as to providing a "selector" which, when a transmission band allocated to one of the terminal devices is limited, "outputs *the same information to both the transmitter and the file I/O controller*, wherein the information received from the selector by the transmitter is band-limited to correspond to the limited transmission band and the band-limited information is transmitted to the terminal device, or, the information received from the selector by the transmitter is deleted by the filter according to the priority table, *while at the same time*

the information received from the selector by the I/O controller is non band-limited and stored in the file device" as recited in Claim 60 (emphases added.)

Similarly, while Ito describes "adjusting the transfer bit rate of video data to be transmitted through the network in order to surely ensure continuity in the delivery of video data if the transfer bit rate cannot be maintained constant because of a high load imposed on the network" (Col. 2, lines 50-54), it is silent as to providing a selector which "outputs *the same information to both the transmitter and the file I/O controller*, wherein the information received from the selector by the transmitter is band-limited to correspond to the limited transmission band and the band-limited information is transmitted to the terminal device, or, the information received from the selector by the transmitter is deleted by the filter according to the priority table, *while at the same time the information received from the selector by the I/O controller is non band-limited and stored in the file device"* as recited in Claim 60 (emphases added.) Thus, Ito does not cure the deficiency of Humpleman.

As for Gerszberg and Barton, applicants merely confirm that neither reference teaches or suggests the "selector" that "outputs the same information to both the transmitter and the file I/O controller" as recited in Claim 60, and thus neither cures the deficiency of Humpleman and Ito.

Accordingly, Claim 60, as amended, is allowable over Humpleman, in view of Ito, in further view of Gerszberg, in further view of Barton.

Regarding Gerszberg, this reference describes a dynamic bandwidth allocation system used to optimize the transmission of a twisted pair connecting customer premises' equipment with a local office. In Gerszberg, flow control involves prioritizing of services. ("[F]low control involves prioritizing of all services. Telephone calls might have the highest priority while Internet, utility monitoring and metering might have the lowest priority." Gerszberg, Col. 10, lines 40-43.) On the other hand, in the present invention, the priority table correlates each of the

packets (or, more specifically, packet identifiers) with a packet priority (see, for example, FIGURE 7 of the present application). Therefore, Gerszberg does not teach or suggest the priority table of the present invention "correlating each of the packet identifiers with a packet priority," as explicitly recited in Claim 60. As the Office Action itself confirmed, this subject matter is not taught or suggested by any of the other three cited references. Furthermore, Gerszberg and all of the other cited references are completely silent as to yet another subject matter explicitly recited in Claim 60, "the information received from the selector by the transmitter is deleted by the filter according to the priority table." Thus, Claim 60 is allowable for these additional reasons in view of the four cited references, either alone or in any combination.

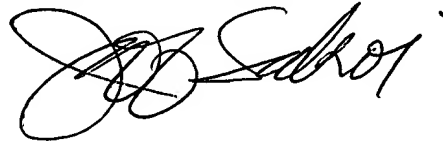
Barton discloses a multi-media time warping system that allows the user to view a television broadcast program with the option of instantly reviewing previous scenes within the program. Clearly, Barton is not concerned at all with the high load on a local network, and as such there is no motivation or suggestion to combine Barton with any of the other references in a manner proposed in the Office Action. The Office Action noted that Col. 1, line 63-Col. 2, line 38 of Barton teach a "selector" that outputs the information to both a transmitter and a file I/O controller at the same time. Barton's "selector," however, does not output the information such that "the information received from the selector by the transmitter is band-limited to correspond to the limited transmission band and the band-limited information is transmitted to the terminal device, or, the information received from the selector by the transmitter is deleted by the filter according to the priority table." Accordingly, Barton's "selector" is not at all equivalent to the "selector" explicitly recited in Claim 60.

Claims 61 and 63-68 are all dependent from Claim 60, as amended, and therefore these dependent claims are also believed to be allowable for at least the same reasons why amended Claim 60 is allowable.

Based on the foregoing, Claims 60-61 and 63-68, as amended, are believed to be allowable. An early and favorable action passing the present application for issuance as a patent is respectfully requested. If the Examiner should have further issues to resolve, he is invited to telephone applicants' undersigned attorney at the number set forth below.

Respectfully submitted,

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